

DETAILED ACTION

Claim Rejections - 35 USC § 102

Claim Rejections - 35 USC § 103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. **Claims 1-5, 8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sada et al (JP56103497), hereafter Sada. The English translation is used for the rejection purposes.**
 5. Sada discloses a hot melt composition for printed circuits comprising higher alcohols such as lauryl alcohol, cetyl alcohol, heptadecyl alcohol and octadecyl alcohol

and compounds having a steroid skeleton such as ergosterol (page 5). These compounds are having melting temperature within the range of 40 to 300°C and the viscosity preferably within the range 500 to 130,000 cps. Sada is silent on the melting temperature width, the content of metal ion, the difference between bonding strength at normal temperatures and bonding strength at high temperature. However, since Sada discloses the same compounds as used in the applicant's examples; therefore the composition of Sada would possess the same properties as claimed. The reference is anticipatory.

6. Even if Sada does not anticipate those claims, they still would have been obvious in view of the teachings of that reference. Overlapping ranges would have been obvious. MPEP 2144.05, I. Sada discloses an approximately viscosity higher than the claimed invention. However, "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain". In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983). MPEP 2123, I. Thus, the composition of Sada would possess the claimed properties.

7. Sada does not expressly disclose that the hot melt adhesive composition is in the form of a tablet. However, the composition of Sada is used to plug the through holes of the printed substrate by rolling, the examiner is in position that it can form any shape (cube, cylinder, and tablet) depending on the shape of the through holes. The reference is anticipatory.

8. In the event that any minor modifications are necessary to meet the claimed limitations, such as the shape of the composition, such modifications are well within the purview of the skilled artisan.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sada as applied to claim 1 above, and further in view of Riswick et al (5,804,519 hereafter Riswick) or Kroll (6,288,149).

10. Sada does not disclose the hot melt composition contains a surface tension modifier.

11. However, Riswick and Kroll disclose mixing surface active agents having a polyoxyalkylene ether group (Kroll) or a fluorinated alkyl group (Riswick) into the hot melt adhesive compositions to improve the wettability of the adhesive surface.

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added the surface active agents of Riswick or Kroll into the hot melt adhesive composition of Sada, thereby increase the surface tension of substrate being bonded.

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sada as applied to claim 1 above, and further in view of Imori et al (US2004/0182714), hereafter Imori.

14. Sada discloses the hot melt composition and solvent used to dissolve/remove the composition. Sada does not disclose the surface treatment agent used as a pretreatment agent prior to applying the composition. However, it is common knowledge to treat the surface of an object, for example semiconductor wafers and

devices with a surface treatment agent to improve the adhesion strength. As evidenced by Imori, silane-coupling agents are used to treat the surface of the semiconductor wafers, thereby provide a good adhesion surface for coating without forming voids, seams or other defects.

Examiner Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haidung D. Nguyen whose telephone number is (571)270-5455. The examiner can normally be reached on M-Th: 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Primary Examiner, Art Unit 1796

Examiner
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